

IN THE CLAIMS:

1. (currently amended) Wireless communication device comprising:
a loop antenna element including,
a first section provided in and extending a length in a first plane,
a second section spaced from the first section and provided in and extending a length in the first plane, where the second section extends along the same line as the first section or has a curvature which is a continuation of the curvature of the first section,
a third continuous section provided in a second plane essentially parallel to the first plane and essentially aligned with the first and second sections wherein a length of the third continuous section is at least as great as combined lengths of the first and second sections,
and
a fourth and a fifth section interconnecting antenna sections provided in the first and second planes,
wherein the antenna sections form a three-dimensional structure having a substantial two-dimensional extension in at least one of the first and second planes.

2. (currently amended) Wireless communication device according to claim 1,
wherein portions of the three-dimensional antenna structure in the first plane at least partly encloses enclose an area in the first plane where a component can be placed so that portions of the three-dimensional antenna structure in the first plane are on opposite sides of the area in the first plane where the component can be placed.

3. (previously presented) Wireless communication device according to claim 1
wherein antenna sections in the first and second planes extend in more than one direction.

4. (currently amended) ~~Wireless communication device according to claim 1, further including~~ Wireless communication device comprising:

a loop antenna element including,
a first section provided in and extending a length in a first plane,
a second section spaced from the first section and provided in and extending a length
in the first plane, where the second section extends along the same line as the first section or
has a curvature which is a continuation of the curvature of the first section,
a third section provided in a second plane essentially parallel to the first plane and
essentially aligned with the first and second sections,
a fourth and a fifth section interconnecting antenna sections provided in the first and
second planes, and
a sixth and a seventh antenna section essentially aligned with each other and provided
in the first and the second plane, respectively, where the sixth and seventh sections are
generally perpendicular to at least parts of and connected to the first and third section,
respectively, wherein the antenna sections form a three-dimensional structure having a
substantial two-dimensional extension in at least one of the first and second planes.

5. (original) Wireless communication device according to claim 4, wherein the
fourth section interconnects the sixth and seventh section.

6. (previously presented) Wireless communication device according to claim 4
further including an eighth and a ninth antenna section essentially aligned with each other and
provided in the first and the second plane, respectively, where the eighth and ninth sections
are generally perpendicular to at least parts of and connected to the second and third sections,
respectively.

7. (original) Wireless communication device according to claim 6, wherein the fifth
section interconnects the seventh and eighth section.

8. (previously presented) Wireless communication device according to claim 1 wherein the first section has a first feeding end and the second section has a second feeding end both provided in the first plane close to each other.

9. (currently amended) Wireless communication device according to claim 1 wherein ~~the length~~ a length of the loop antenna element corresponds to a full wavelength of ~~an centre~~ a center frequency in a desired frequency band.

10. (previously presented) Wireless communication device according to claim 1 further comprising a printed circuit board including a ground plane and radio circuits for the loop antenna element, wherein the antenna element sections are provided along the sides of and bound by the printed circuit board.

11. (currently amended) Wireless communication device according to claim 10, wherein the loop antenna element is provided along at least half of the perimeter of the printed circuit board.

12. (currently amended) ~~Wireless communication device according to claim 1 further including~~ Wireless communication device comprising:

a loop antenna element including,

a first section provided in and extending a length in a first plane,

a second section spaced from the first section and provided in and extending a length in the first plane, where the second section extends along the same line as the first section or has a curvature which is a continuation of the curvature of the first section,

a third section provided in a second plane essentially parallel to the first plane and essentially aligned with the first and second sections, and

a fourth and a fifth section interconnecting antenna sections provided in the first and second planes, wherein the antenna sections form a three-dimensional structure having a substantial two-dimensional extension in at least one of the first and second planes; and

at least one passive antenna element in a third plane parallel to the first plane and provided on the other side of the first plane than the second plane for providing a resonating circuit or tuning element for the loop antenna.

13. (previously presented) Wireless communication device according to claim 1 wherein the antenna sections are provided in the form of metallic strips, wires or a combination of both.

14. (previously presented) Wireless communicating device according to claim 1 wherein the device is a portable communication device.

15. (original) Wireless communicating device according to claim 14, wherein the portable communication device is a headset.

16. (currently amended) Antenna arrangement for a wireless communication device comprising:

a first section provided in and extending a length in a first plane,

a second section spaced from the first section and provided in and extending a length in the first plane, where the second section extends along the same line as the first section or has a curvature which is a continuation of the curvature of the first section,

a third continuous section provided in a second plane essentially parallel to the first plane and essentially aligned with the first and second sections wherein a length of the third continuous section is at least as great as combined lengths of the first and second sections,
and

a fourth and a fifth section interconnecting antenna sections provided in the first and second planes,

wherein the antenna sections form a three-dimensional structure having a substantial two-dimensional extension in at least one of the first and second planes.

17. (currently amended) Antenna arrangement according to claim 16, wherein portions of the three-dimensional structure in the first plane at least partly eneloses ~~enclose~~ an area in the first plane where a component can be placed so that portions of the three-dimensional antenna structure in the first plane are on opposite sides of the area in the first plane where the component can be placed.

18. (previously presented) Antenna arrangement according to claim 16 further comprising a dielectric material on which the sections of the antenna element are provided, in order to produce a component that can be mounted on a printed circuit board.